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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,818	02/20/2004	KianSoon Yeo	STL11337	7067

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EXAMINER

NEGRON, DANIEL L

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/783,818

Applicant(s)

YEO ET AL.

Examiner

Daniell L. Negrón

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 11-16 is/are rejected.
- 7) ☒ Claim(s) 5-10 and 17-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The information disclosure statement (IDS) submitted on February 20, 2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4, and 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Blachek et al U.S. Patent No. 6,169,930.

Regarding claim 1, Blachek et al disclose a method comprising determining an internal temperature of a device and steps for unlatching an actuator of the device based on the temperature (column 1, lines 47-63 and column 5, lines 7-13). Furthermore, although Blachek et al does not explicitly disclose an unlatching procedure, it is considered inherent in the disclosure since it is necessary in a conventional disk drive for an actuator to be in a latched or restricted position during an unloaded state to avoid unintentional contact with the disk medium.

Regarding claim 4, Blachek et al disclose a method in which the steps for unlatching the actuator of the device are steps of an unlatch process (column 5, lines 7-13, also see rejection above).

Regarding claims 11-16, apparatus claims 11-16 are drawn to the apparatus corresponding to the method of using same as claimed in claims 1 and 4. Therefore apparatus

claims 11-16 correspond to method claims 1 and 4, and are rejected for the same reasons of anticipation as used above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blachek et al U.S. Patent No. 6,169,930 in view of Chiang et al U.S. Patent No. 6,252,364.

Regarding claims 2 and 3, Blachek et al disclose a method comprising all the limitations of claim 1 as discussed above, but fail to explicitly disclose steps for unlatching the actuator having steps of a DC or AC unlatch process.

Chiang et al however disclose a procedure for unlatching an actuator wherein an AC current is used for the purpose of releasing an actuator from a locked position (column 5, lines 19-33).

It is considered that applying an AC current is for unlatching an actuator well known device in conventional disk drive actuator unlatching methods. Furthermore, although Chiang et al fail to disclose a DC current, applying a DC current is considered a known equivalent and could substitute an AC current for the same purpose (*In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958)). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide AC or DC unlatch process to the disclosure of Blachek et al since no unexpected result is to occur.

Allowable Subject Matter

Claims 5-10, and 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 5 and 17, prior art fails to teach or suggest a method comprising all the limitations of claim 4 and 16 respectively, in which the steps of the unlatch procedure comprise initiating a DC current unlatch process when the value of a thermistor is greater than the predetermined temperature threshold value, validating success of the DC current unlatch process unlatching the actuator from a latch of the head-disc assembly, activating an AC current unlatch process when the DC current unlatch process is unsuccessful in unlatching the actuator from the latch of the head-disc assembly, and in the alternative commencing the AC current unlatch process when the value of the thermistor is less than the predetermined temperature threshold value.

Regarding claim 9, prior art fails to teach or suggest a method comprising all the limitations of claim 2, in which the DC unlatch process comprises the steps of selecting an initial DC current, applying the initial DC current across a coil of the actuator for an initial time interval, measuring a response of the coil to the initially applied DC current, determining whether the actuator has been successfully unlatched from the magnetic latch based on the response of the coil to the applied DC current, increasing incrementally the initial DC current to a predetermined maximum DC current level, measuring the response of the coil to each incremental increase in the initial DC current up to the predetermined maximum DC current level to determine whether the actuator has been successfully unlatched from the magnetic latch,

expanding incrementally the initial time interval to a predetermined maximum time interval when the predetermined maximum DC current level applied across the coil for the initial time interval has been unsuccessful in unlatching of the actuator from the magnetic latch, evaluating the response of the coil to each incremental increase in the initial time interval up to the predetermined maximum time interval to determine whether the actuator has been successfully unlatched from the magnetic latch, and switching to the AC current unlatch process when the predetermined maximum DC current level applied across the coil for the predetermined maximum time interval has been unsuccessful in unlatching the actuator from the magnetic latch.

Regarding claim 10, prior art fails to teach or suggest a method comprising all the limitations of claim 3, in which the AC unlatch process comprises the steps of selecting an initial AC current applying the initial AC current across a coil of the actuator for a predetermined time interval, measuring a response of the coil to the initially applied AC current, determining whether the actuator has been successfully unlatched from the magnetic latch based on the response of the coil to the applied current, increasing incrementally the initial AC current to a predetermined maximum AC current level, measuring the response of the coil to each incremental increase in the initial AC current up to the predetermined maximum AC current level to determine whether the actuator has been successfully unlatched from the magnetic latch, and reporting an unlatch failure upon an unsuccessfully unlatching of the actuator from the magnetic latch.

Conclusion


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniell L. Negrón whose telephone number is 571-272-7559.

The examiner can normally be reached on Monday-Friday (8:30am-5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


DLN
August 1, 2006


WAYNE YOUNG
SUPERVISORY PATENT EXAMINER